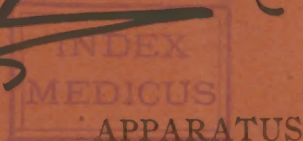


Dixon (S. G.)



FOR

COLLECTING WATER

FOR

Bacteriological Examination.

BY SAMUEL G. DIXON, M.D.,

Academy of Natural Sciences, Philadelphia.

Reprinted from THE TIMES AND REGISTER, October 24, 1891.

PHILADELPHIA :
THE AMERICAN MEDICAL PRESS COMPANY, LIMITED.

1891.



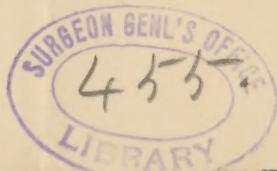


APPARATUS FOR COLLECTING WATER FOR BACTERIOLOGICAL EXAMINATION.

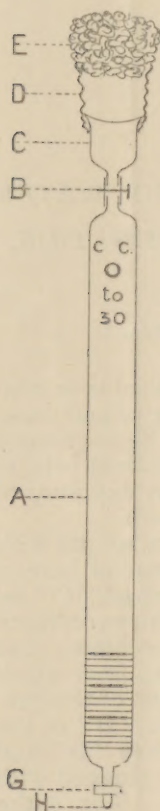
By SAMUEL G. DIXON, M.D.,
Academy of Natural Sciences, Philadelphia.

THE instrument about to be described is so constructed, that water may be collected and transported in it to a laboratory, and there be discharged in any given quantity into a culture medium held in either a test-tube, dish or flask, without exposure to the foreign life floating in the atmosphere.

Reference to the illustration shows a burette with glass stop-cock at "G." The upper end of burette "A" is connected with neck of glass funnel "C" by means of rubber tube "B," furnished with an ordinary compressor. The glass funnel "C" is so blown, that its top is of the same diameter as the tap from which the water is to be taken. The upper rim of this funnel is fitted with rubber tube or sleeve "D" of the same size. The upper end of rubber sleeve "D" and spitz "H" at lower end of burette are plugged with sterilized, non absorbent cotton wool. The entire apparatus can be placed in a steam sterilizer, and there effectually sterilized. It is then ready to be



placed in a box made in any convenient style for transportation.



In practice, the method of collecting the water, provided it is furnished through a tap or pipe, is, to first permit it to flow for several minutes. Then wash the outside of tap or spigot, as well as the outside of rubber sleeve indicated by the letter "D," with a solution of bichloride of mercury (1-1,000). The cotton plug marked "E" is gradually removed, as the rubber tube or sleeve "C" is stretched over the end of the discharge tap or pipe which completes the attachment of the apparatus. At this stage of the manipulation, the rubber tube "B" is permitted to open, by releasing the compress. The glass stop-cock "G" is then turned on, this permits the water to drive out the cotton wool plug in spitz, and flow through all the respective parts of the apparatus. The water should flow for several minutes, before the glass stop cock "G" is turned off, and the compressor on rubber tube "C" closed by means of its thumb screw. As soon as the flow of water is shut off, the spitz should be plugged with sterilized cotton wool.

Under these conditions, you have tightly sealed in the burette a portion of the stream of water that was flowing through it continuously from the tap or pipe from which the water was fur-

nished, without its having been exposed in the least, to foreign substances.

Upon removing the neck of the glass funnel "C" from the rubber tube or sleeve, a sterilized cotton wool plug is at one and the same time worked into the rubber tube. The burette and its accessories, containing the water collected, can now be placed in a box or case for transportation.

To plant the water so collected the burette is placed in an ordinary holder, while the vessel containing the culture medium is taken in the operator's hand and the spitz of the burette washed with the bichloride solution, the cotton plug removed from its aperture, and the glass end worked down through cotton or whatever medium covers the vessel containing the soil. The compressor "B" is then loosened so as to permit of an air supply through the cotton wool plug that was introduced upon the removal of the neck of the glass funnel.

By a careful turning of stop-cock "G" any quantity of water desired for cultivation can be dropped into the nutritive medium.





